SL-OCT Video-Kit

Installation Manual

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© Heidelberg Engineering GmbH

Corporate Headquarters
Heidelberg Engineering GmbH • Tiergartenstrasse 15 • 69121 Heidelberg • Germany
Phone +49 6221 6463-0 • Fax +49 6221 6463-62 • www.HeidelbergEngineering.de

USA
Heidelberg Engineering, Inc • 1499 Poinsettia Avenue, Suite 160 • Vista, CA, 92081
Phone 760-598-3770 • Fax 760-598-3060 • www.HeidelbergEngineering.com

Heidelberg Engineering, Inc. • 410 Harris Road • Smithfield, RI 02917
Phone 401-349-0500 • Fax 401-349-0504 • www.HeidelbergEngineering.com

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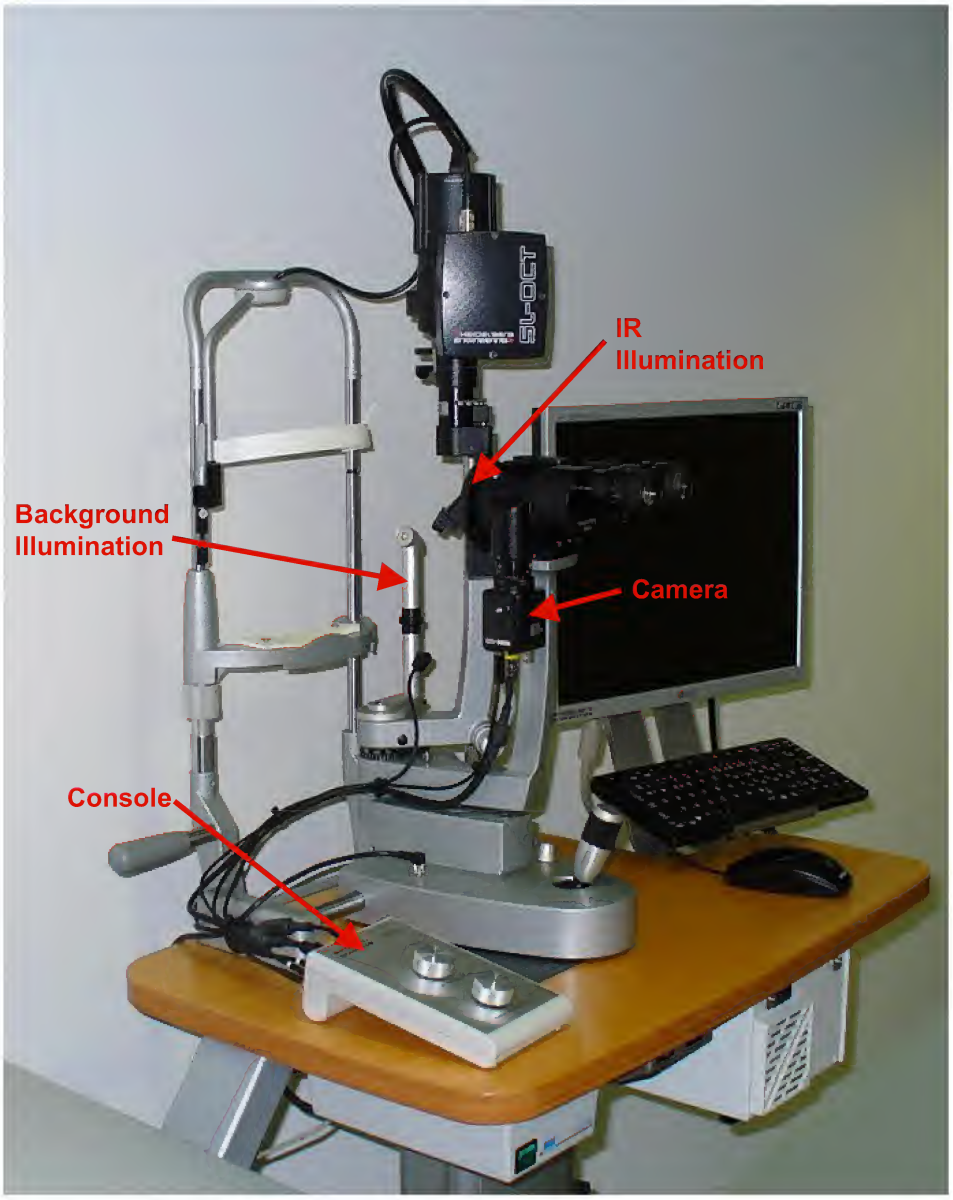
1 Introduction

The SL-OCT Video-Kit is an optional add-on device to the Heidelberg Engineering Slit lamp OCT. It allows the acquisition of video images of the eye and additional illumination of the eye with infrared or visible light.

This document describes installation and adjustment of the SL-OCT Video-Kit device. The Video-Kit is used to be installed on a Heidelberg Engineering Slit Lamp OCT (SL-OCT).



2 Scope

The SL-OCT Video-Kit needs the program HEYEX SLOCT V. 1.0.2.0 or higher.

3 Responsibility

Field Service

4 Tools

Following tools are required:

Pic.: needed tools

- Allen Wrench 1,5 mm
- Screwdriver for recessed head screws
- Wire Cutter
- Slit Lamp Test Rod

5 Parts of the Video-Kit

The SL-OCT Video-Kit is packed in one bhe installation manualox. The upper layer contains operation and installation manuals. The second layer contains the hardware parts described in detail below.

Pic.: second layer of Video-Kit package

Pict.: Console

Pict.: Camera

Pict.: Background Ilumination

Pict.: IR Illumination

Pict.: Power Cable

Pict.: USB-Cable

Pict.: Camera Video Cable

Pict.: Camera Power Cable

Pict.: Background Illumination Power Cable

Pict.: Camera Adapter premounted to the camera

Pict.: Cable Bracket

Pict.: Cable Tie

Optional:

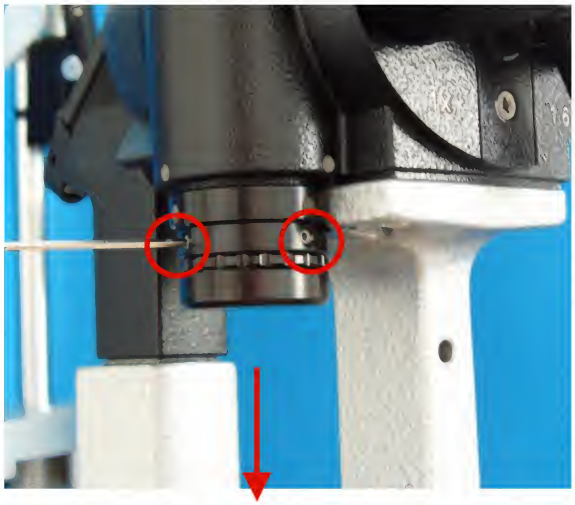
Pict.: Power Adapter

6 Installation of the Video-Kit

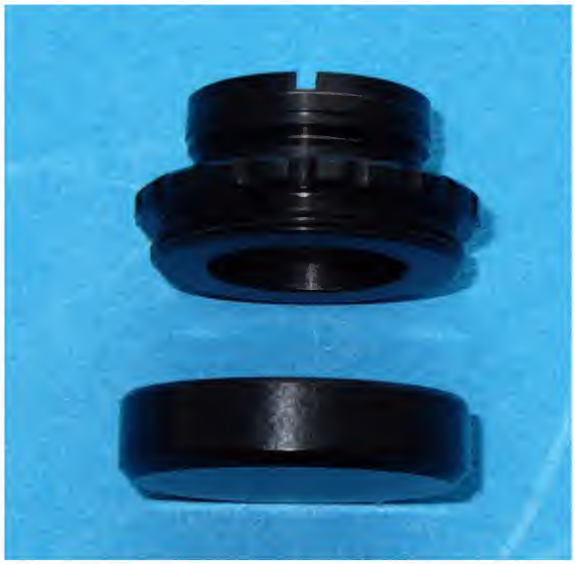
6.1 Camera Installation

Open the three 1,5mm allen screws at the Slit lamp Video Port (third screw not visible in picture).

Remove the Haag-Streit Video Adapter and the dust cover.

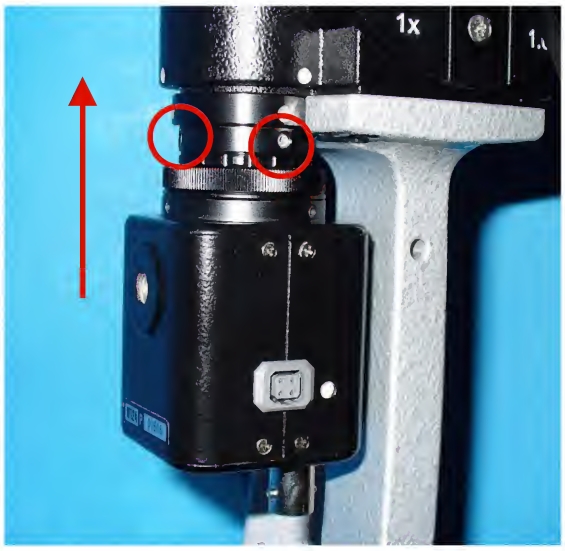


Remove the dust cover from the Haag-Streit Video Adapter.



Add the Camera Adapter and the Haag-Streit Video Adapter to the camera. The screwed fastenings must be as strongly tightened as posssible by hand.
Attention: The Camera Adapter is premounted onto the camera if the system is originally packed by Heidelberg Engineering.

Mount the camera onto the slit lamp.



Tighten the three 1,5mm allen screws.

6.2 Installation of the IR Illumination

Mount the IR Illumination to the microscope of the slit lamp

Tighten the two 1,5mm allen screws.

6.3 Installation of the Background Illumination

Remove the cover.

Install the Bckground Illumination.

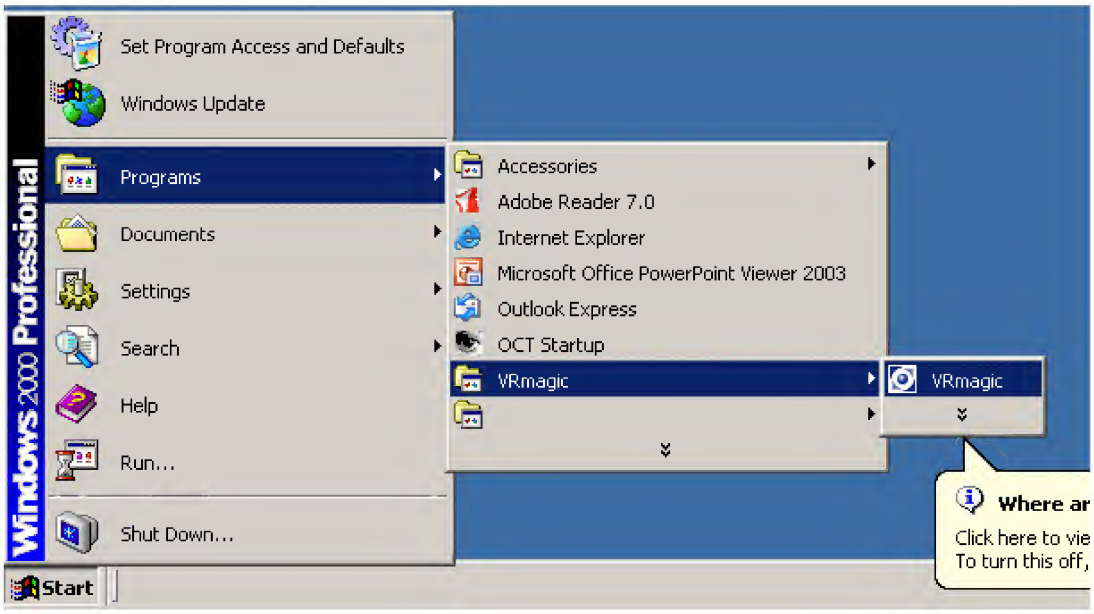
6.4 Installation of the Video-Kit Software package

The installation of the Video-Kit software package takes place before the cable connections of the Video-Kit are installed.

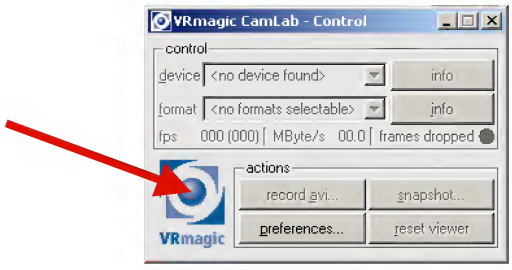
Start the slit lamp computer.

First of all control the current version of video camera software:

Open menu Start \ Programs \ Vrmagic and select “VRmagic” as shown in the picture below.

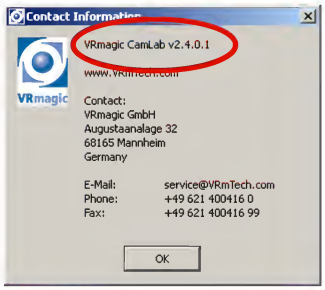


The Vrmagic program starts. Click on the Vrmagic icon in the lower left edge.



A dialog window opens and shows the installed software version: The current version must be v2.4.0.1 as shown in the picture.

If this software version is installed, close the Vrmagic program and continue with installation of the cable connections described in following section 6.5.



If program version v2.4.0.1 is not yet installed, a software update has to be done:

Close the Vrmagic program.

Remove the USB-connection to the console.

Open menu Start \ Programs \ Vrmagic and select “Uninstall VRmagic”. After finishing the uninstalling restart the computer.

Connect the Heidelberg Engineering USB flash memory to the computer.

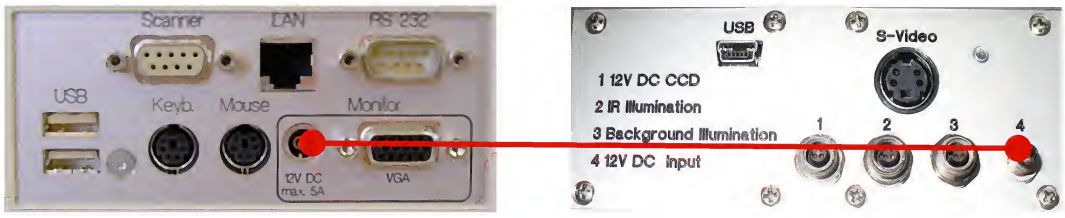
Open the folder “Removable Disk (D)” and start the application “vrsetup.exe”. Follow the instructions of the installation assistant.

Connect again the console via USB to the computer.

6.5 Installation of the cable connections

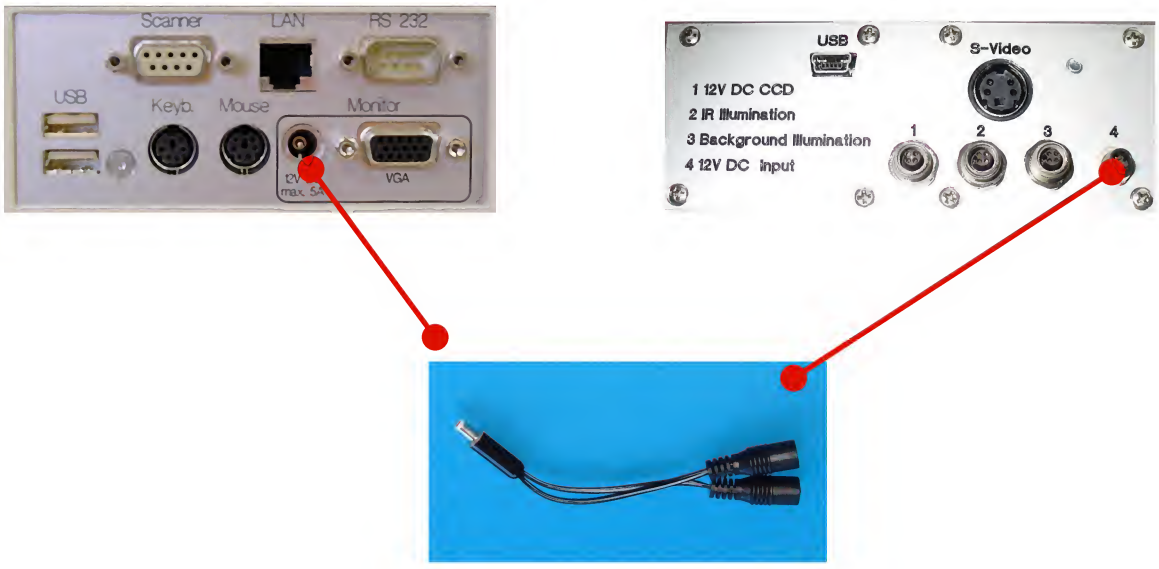
Place the console on the left side of the table.

Cable connection A) Power Cable

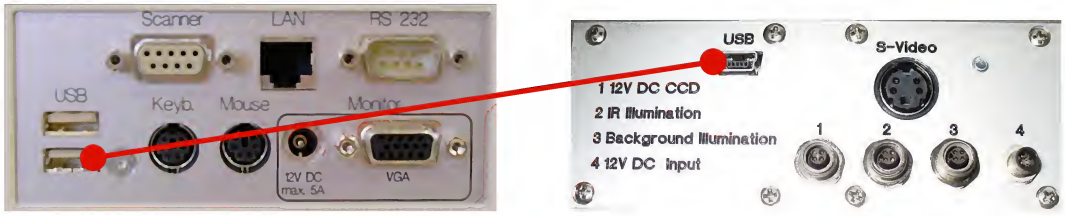


SL-OCT Console

If the 12V DC port is used for the TFT Display use the Power Adapter to connect the TFT Display and the Video-Kit to the 12V DC port.



Cable connection B) USB Cable



SL-OCT Console

Cable connection C) Camera Video Cable

Camera Console

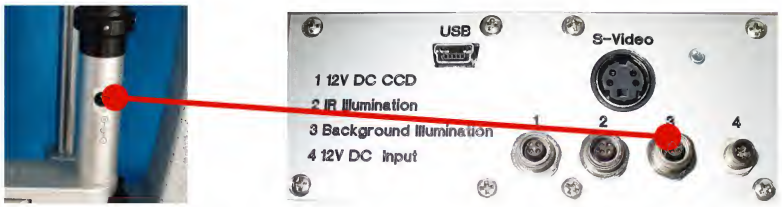
Cable connection D) Camera Power Cable

The cable is marked with a white flag '1' near the connector of console.

Camera Console

Cable connection E) Background Illumination Power Cable

The cable is marked with a white flag '3' near the connector of console.



Camera Console

Cable connection F) IR Illumination

The cable is marked with a white flag '2' near the connector of console.

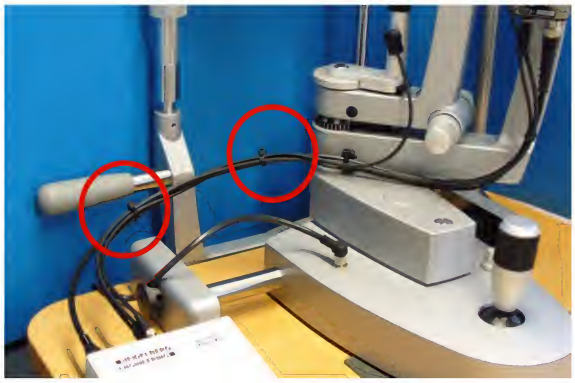
Camera Console

Remove the cover of the screwhole for the cable bracket.

Install the cable bracket.

Fix the cable for the Camera and the IR Illumination with two cable ties.

Fix the cable for the Background Illumination two cable ties.



You may fiddle the cables of the Video-Kit into the cable bracket of the slit lamp.

6.6 Adjusting the device

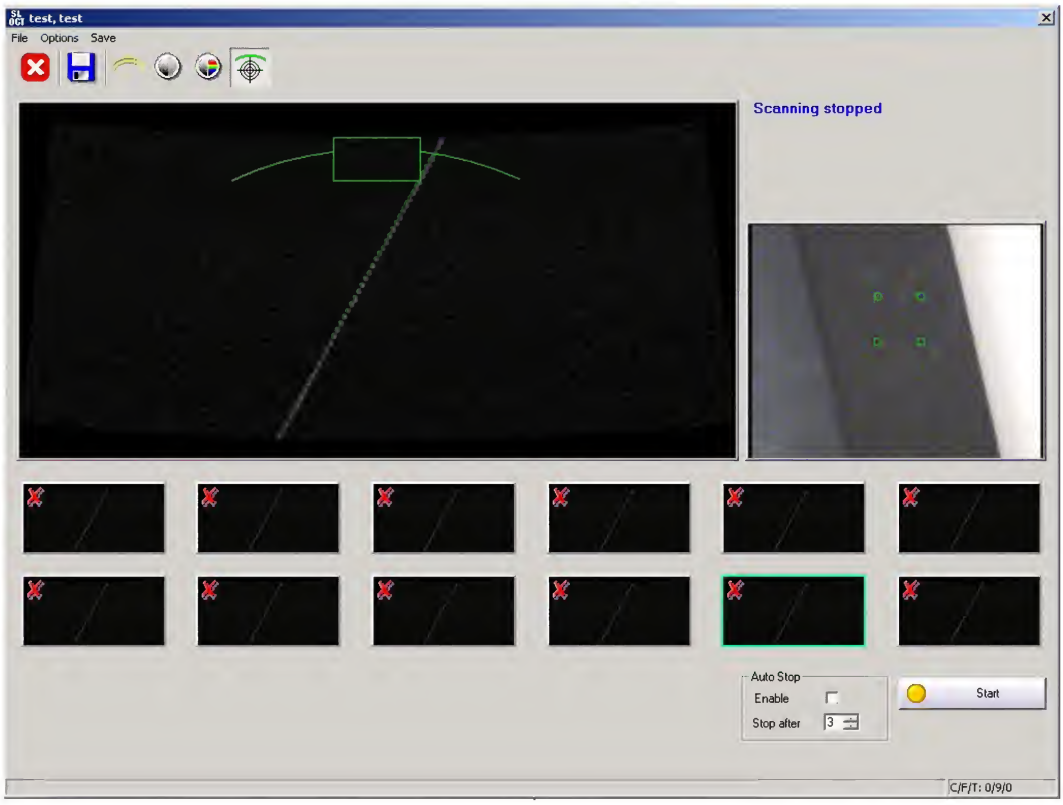
Attention: Control if Background Illumination is switched to ON.

Switch the magnification of the slit lamp microscope to 1,6x

Remove the Background illumination and install the Test Rod for aligning the camera.

Open the HEYEX program and start the SLOCT acquisition. Right next to the OCT image the live video image is displayed.

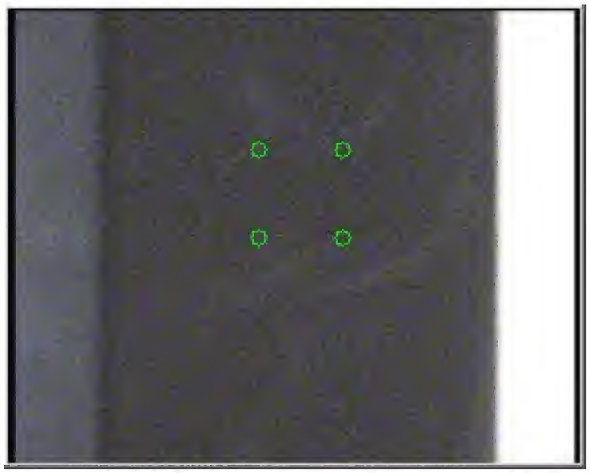
Now turn the Test Rod around until the edge of the rod is visible in the camera image.



Now hold the camera device in one hand and loosen carefully the three screws connecting the camera to the slit lamp.

Turn the camera device slightly around until the right edge of the rod is exactly parallel to the right side border of the video display.

Fasten the screws again.



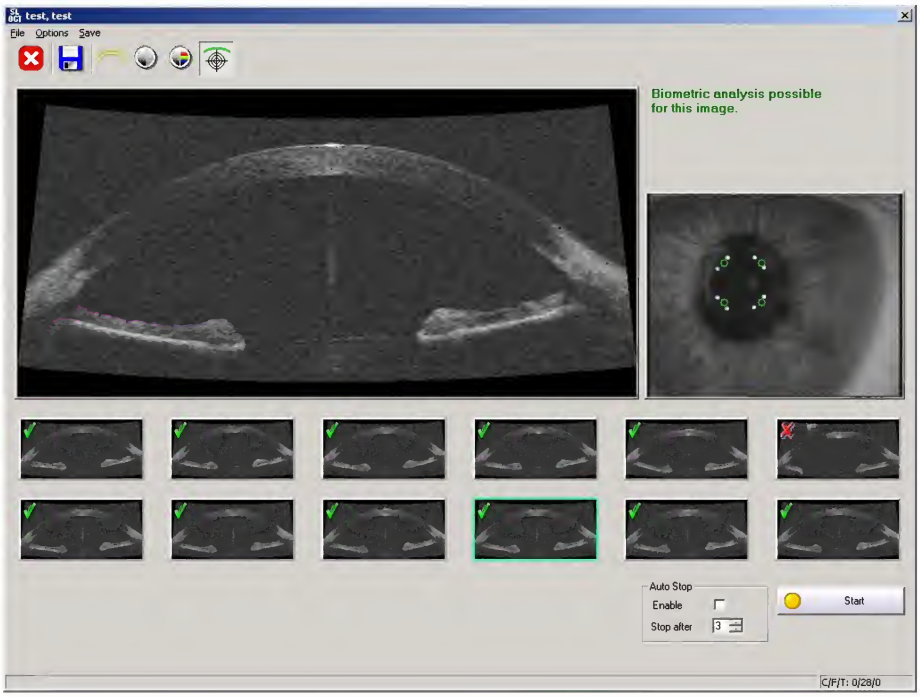
Remove the Test Rod and mount the Background Illumination again onto the slit lamp.

6.7 Adjusting the green video targets

The Yellow Filter of the slit lamp microscope has to be in the ○ position.

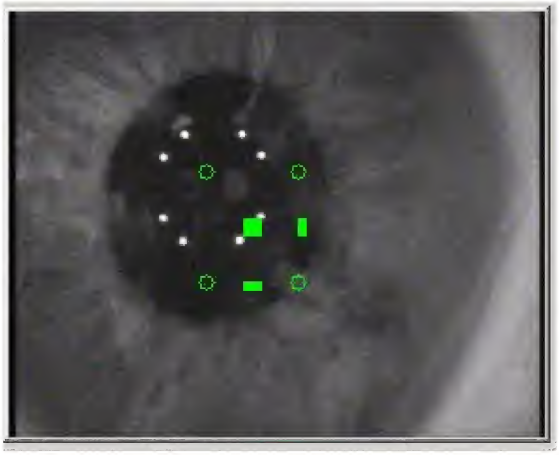
Measure a patient's eye. Turn on the IR lighting. Be sure to have the usual 1,6x magnification of the slit lamp: If you change the magnification the positions of the targets don't change either!

In the video image window the eight reflexes of the IR lighting are visible and four green targets.



Select an image which can be used for biometric analysis.

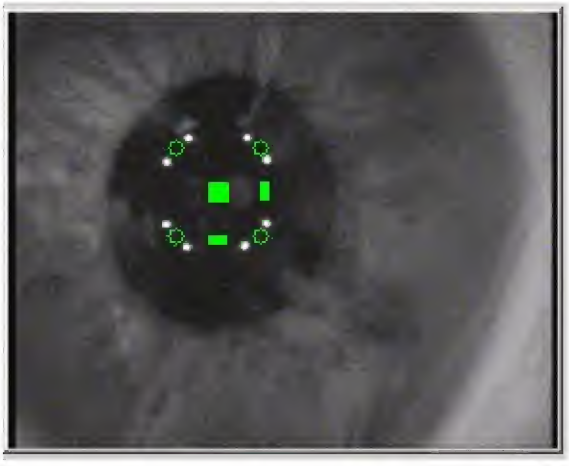
In expert mode the targets can be adjusted to the range of the IR reflexes. The expert mode is activated if the keys Ctrl + Alt + Shift + d pressed simultaneously.



The three control bars change the vertical and horizontal width in-between the targets and the position of the whole target system.

Move the middle control bar with the mouse so that the upper left target is placed in-between the upper left reflexes.

Now change the horizontal and vertical size so that all green targets are placed in-between the reflexes.



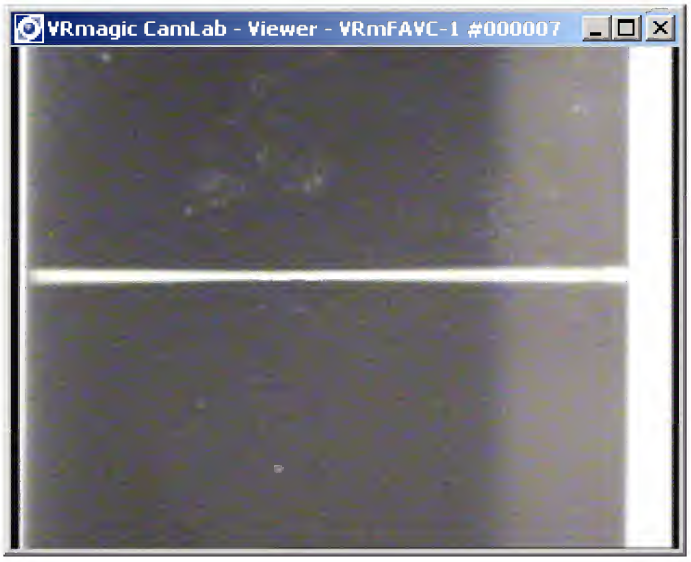
Close the expert mode by pressing the keys Ctrl + Alt + Shift + d again. Control the placement of the targets by measuring a patient's eye again.

7 Troubleshoot

If the video image shown in the acquisition window of the HEYEX SLOCT program is not the right cut-out or is not shown, close the HEYEX program and open menu Start\programs\VRmagic and start the program VRmagic.

There are two windows: The VRmagic CamLab – Control and the VRmagic CamLab – Viewer.

The Viewer shows the current video image. In this case the rod lighted with the slit beam.

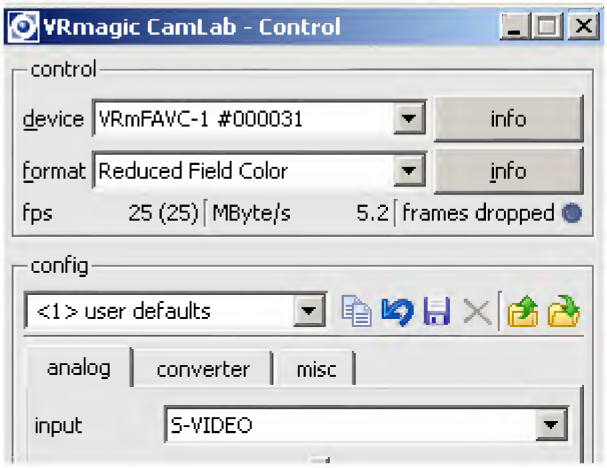


There are two important settings in the VRmagic CamLab control:

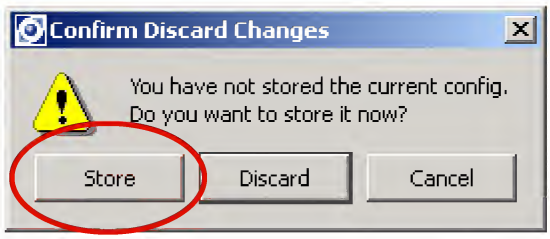
1. format: Reduced Field Color

2. input: S-Video

If one of these settings is changed, please open the popup menu and select the correct setting.



When you close the VRmagic CamLab – Control, you will be asked to store the changed settings:



Select Store.

Start again the HEYEX SLOCT acquisition. Now the video image is shown in the correct size.